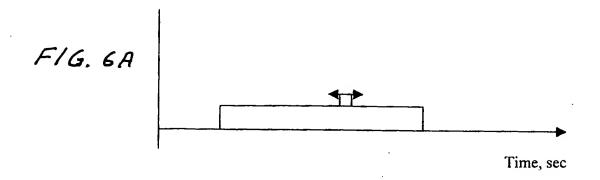
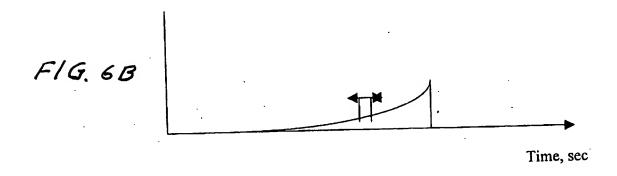
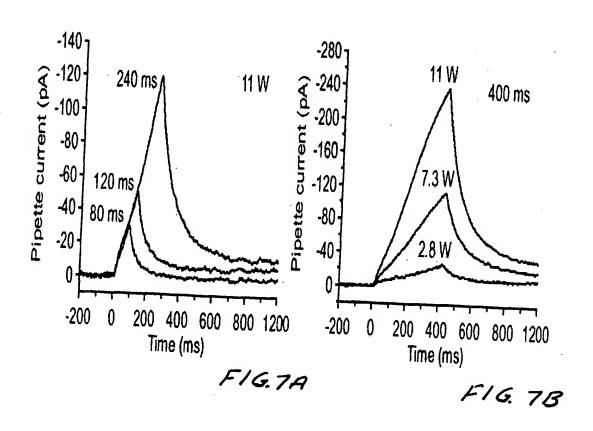
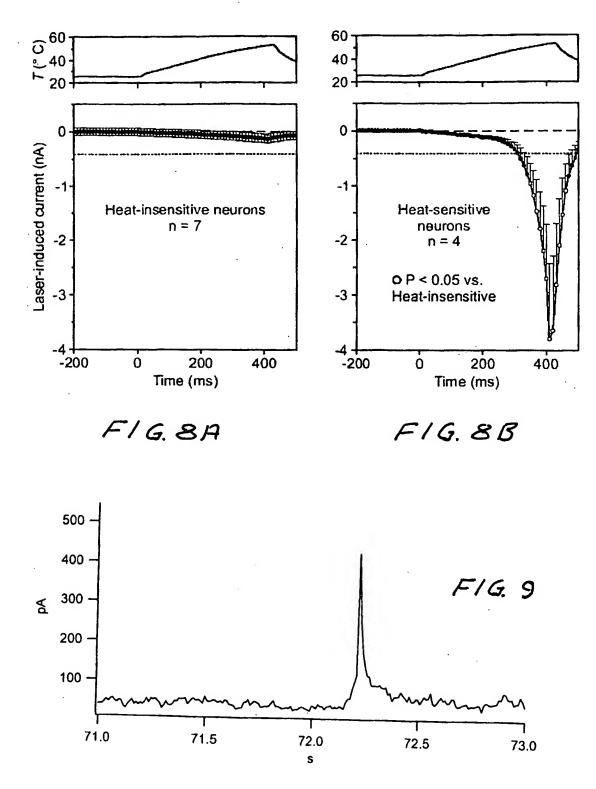


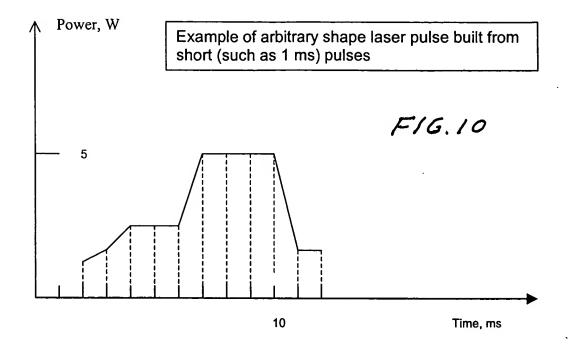
F1G. 5











Example of standard square wave laser pulses:

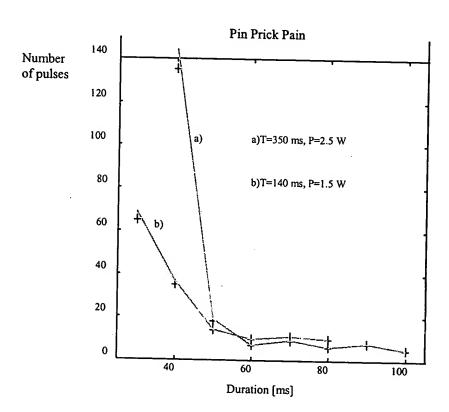
F16.11

A) Single pulses such as:1 ms -60 sec

| Power,<br>W | Pulse<br>duration,<br>ms | Irradiated<br>diameter,<br>mm | Energy,<br>mJ | Energy<br>density,<br>mJ/mm2 | Power density, W/mm2 |
|-------------|--------------------------|-------------------------------|---------------|------------------------------|----------------------|
| 20          | 10                       | 1                             | 200           | 255                          | 25.5                 |
| 16          | 20                       | 1                             | 320           | 408                          | 20.4                 |
| 10          | 50                       | 1                             | 500           | 637                          | 12.7                 |
| 2           | 500                      | 1                             | 1000          | 1274                         | 2.5                  |
|             |                          |                               |               |                              |                      |
| 10          | 200                      | 2.5                           | 2000          | 408                          | 2.0                  |
| 3.5         | 300                      | 2.5                           | 1050          | 215                          | 0.7                  |
| 2           | 500                      | 2.5                           | 1000          | 204                          | 0.4                  |
|             |                          |                               |               |                              |                      |
| 1.5         | 1000                     | 3                             | 1500          | 212                          | 0.2                  |
| 1.2         | 2000                     | 3                             | 2400          | 340                          | 0.17                 |
| 1.1         | 20000                    | 5                             | 22000         | 1121                         | 0.06                 |

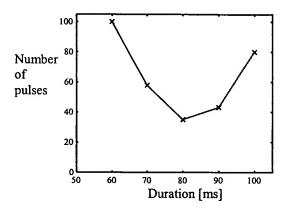
| Number<br>of<br>Pulses | Power,<br>W | Pulse<br>Duration,<br>ms | Irradiated<br>area, mm | Interval<br>between<br>pulses,<br>sec | Energy,<br>mJ | Energy<br>density,<br>mJ/mm2 |
|------------------------|-------------|--------------------------|------------------------|---------------------------------------|---------------|------------------------------|
| 100                    | 2.5         | 50                       | 2                      | 0.35                                  | 125           | 20.0                         |
| 25                     | 5           | 300                      | 7                      | 3                                     | 1500          | <u>39.8</u>                  |
| 100                    | 10          | 50                       | 1                      | 60                                    | 500           | 636.9                        |
| 40                     | 1.5         | 80                       | 2                      | 0.15                                  | 120           | 38.2                         |

F16.12

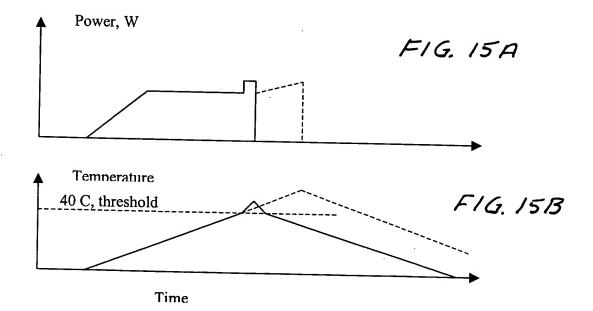


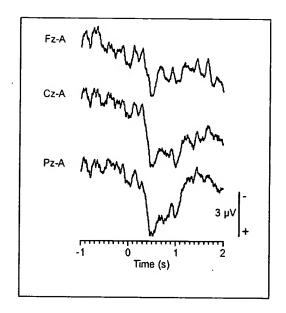
F/G. 13

Burning/Hot Pain (accumulation), T=800 ms, P=2.5W



F1G. 14





Fz CZ

FIG. 16A

F16. 16B

